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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/706,227 | 11/03/2000 | Erling H. Wold | AMC-00-003 | 6504 |

7590

05/05/2004

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| EXAMINER |
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OPSASNICK, MICHAEL N

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| ART UNIT | PAPER NUMBER |
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2655

DATE MAILED: 05/05/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/706,227

Applicant(s)

WOLD ET AL.

Examiner

Michael N. Opsasnick

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4,5,6.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4,6-14,16-24,26-38,40-44 are rejected under 35 U.S.C. 102(e) as being anticipated by Schulze (4918730).

As per claims 1,11,21,31,33,35 Schulze (4918730) teaches a method (col. 9 lines 45-55), apparatus (figs. 1-4), and storage medium (col. 4 lines 15-27 -- RAM for storing processing results, and other storage mediums) for creating a signature of sampled work (examiner notes that the claim scope of 'sampled work' is an audio signal, applicant's specification, page 1, and page 3 line 20 – page 4 line 2) in real time comprising receiving a sampled work (as digitizing the audio signal -- col. 4 lines 10-15, 25-34)

“segmenting said sampled work.....segments....hop sizes” as storing time segments of the envelope signal (abstract), wherein the segment is preferably 1.7 seconds and the envelope size has a predetermined range (hop, size, col. 2 lines 42-47)

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“creating a signature.....segments” as generating envelop signatures (col. 1 lines 48-55)

“storing said sampled work signature” as storing the envelope signature (abstract)

As per claims 2,22,36, Schulze (4918730) teaches:

“includes the act ofsegment size and hop size” as providing multiple envelope signatures (abstract)

As per claims 3,12,23,32,34,37, Schulze (4918730) teaches said hop size of work signature is less than reference signatures (col. 2 lines 42-47)

As per claims 4,13,24,38, Schulze (4918730) teaches calculating envelop features for each segment (col. 7 lines 50-65)

As per claims 6,16,30,40, Schulze (4918730) teaches calculating envelope frequencies (col. 8 lines 29-35)

As per claims 7,17,26,41, Schulze (4918730) teaches plurality of segments and an identification portion (abstract)

As per claims 8,10,18,27,42, Schulze (4918730) teaches a segment size of 1.7 seconds (col. 1 lines 52-58)

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As per claims 9,19,28,43, Schulze (4918730) teaches the hop size to be less than 50% of the segment size (Schulze (4918730) teaches a range of 2 Hz to 50 Hz, which is less than 1/1.7 seconds; col. 2 lines 1-2)

As per claims 10,20,29,44, Schulze (4918730) teaches a hop size of around .1 seconds (a .1 second hop size corresponds to 10 Hz, which falls in the range of 2-50 Hz, as taught Schulze (4918730), col. 2 lines 1-2).

As per claim 11, Schulze (4918730) also teaches creating multiple reference signatures (as time segments) and comparing a sample of the reference signatures for a match (abstract).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5,14,15,25,39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schulze (4918730) in view of Foote (6542869).

As per claims 5,15,25,39, Schulze (4918730) does not explicitly teach using mel-frequency cepstral coefficients for each segment (Schulze (4918730) teaches calculating a correlation function), however, Foote (6542869) uses MFCC's to measure audio parameters (Foote (6542869)). Therefore, it would have been obvious to one of ordinary skill in the art of audio parameter processing to modify the teaching of Schulze (4918730) to use MFCC's in the analysis of audio signals because it would advantageously preserve coarse spectral features, which can be desirable in some applications (Foote (6542869), col. 4 lines 22-26).

As per claim 14, Schulze (4918730) does not explicitly teach calculating a Euclidean distance between vectors and comparing the result to a threshold, however, Foote (6542869) teaches the calculation of the Euclidean distance (col. 4 lines 55-67; col. 4 lines 45-51), to be used in a vector comparison against a threshold to determine segmentation (col. 8 lines 50-65). Therefore, it would have been obvious to one of ordinary skill in the art of vector measuring to modify the teachings of Schulze (4918730) with using Euclidean distance measuring between two vectors versus a threshold of an audio signal because it would advantageously mark areas of significant change in the audio signal (Foote (6542869), col. 8 lines 43-49).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see related art listed on the PTO-892 form.

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6. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872 9314,

(for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

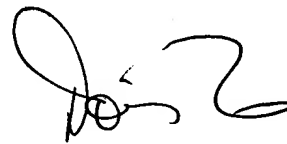
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Opsasnick, telephone number (703)305-4089, who is available Tuesday-Thursday, 9AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To, can be reached at (703)305-4827. The facsimile phone number for this group is (703)872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2600 receptionist whose telephone number is (703) 305-4750, the 2600 Customer Service telephone number is (703) 306-0377.

mno

4/19/2004



DORIS H. TO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600